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BI-MONTHLY PROGRESS REPORT NO. 2

TO: Mr. Barry S. Drucker, Physical Scientist, Contracting Officer's Technical Representative (COTR), U. S. Department of Interior Minerals Management Service (MMS), Sand and Gravel Program, 381 Elden St., Mail Stop 4010, Herndon, VA 20170-4817

CC: via email - Kim Zarillo, Contract Manager, S.E.A.

FROM: Dr. Jeff Reidenauer, Technical Program Manager, The Louis Berger Group, Inc.
30A Vreeland Road, Florham Park, NJ 07932

DATE: December 29, 2005

SUBJECT: Bi-Monthly Progress Report No. 2 for Contract No. 1435-01-05-CT-39075
Biological Characterization/Numerical Wave Model Analysis within Identified Borrow Sites
Offshore the Northeast Coast of Florida

1. Summary of Work Accomplished and Progress Status of Project Items and Tasks

The contract award date was August 15, 2005. This report covers the period from October 21, 2005 to December 29, 2005.

- **Item 2 (Task 2): Compilation and synthesis of existing biological and physical information** -- Draft Report of Existing Information was submitted December 27, 2005. This Item/Task is 100% complete.
- **Item 3 (Task 3): Program development to address biological and physical issues associated with the use of potential sand borrow areas offshore of the northeast coast of Florida** -- The Fall Field Event Cruise Plan was finalized for the October 17-25, 2005 cruise. Due to hurricane activity there were two mob days, October 29th and November 2nd and a weather day on November 3rd. The cruise was completed between November 2 and 9, 2005 using the M/V Thunderforce out of Ft. Pierce.

Deliverables from Tasks 4, 5, and 6 will be divided into two categories technical and non-technical:

- **Item 4 (Task 4): Preparation of the Draft and Final Technical Manuscript and Item 5 (Task 5): Draft and Final Technical Summaries** -- Drafts of various sections will be provided during Item 3 (Task 3) beginning February 2006. The complete draft is due April 2007.
- **Item 6 (Task 6): Submission of Draft and Final Non-Technical Summaries** -- Drafts of various sections will be provided during Item 3 (Task 3). Drafts of various sections

will be provided throughout Item 3 (Task 3) beginning May 2006. The complete draft is due April 2007.

- **Item 7 (Task 7): Submission of Draft Scientific Paper and Paper to Refereed Journal** -- A draft scientific paper is due November 2007.
- **Item 8 (Task 8): Presentation at MMS Information Transfer Meeting or Other Scientific, or Technical Conferences, or Meetings** -- An ITM or conference is planned for March 2008.
- **Item 9 (Task 9): Bi-Monthly Progress Reports** -- This is Progress Report 2 of 16 to be completed over the 32 month contract.
- **Item 10 (Task 10): Presentation Slide Sets** -- A draft slide set is due July 2007.
- **Item 11 (Task 11): Spatial Data Files** -- Data files are due October 2007.
- **Item 12: Program Management and Control Requirements** -- The Technical Program Manager and/or Contract Manager maintains ongoing communication with the COTR and PIs. The Contract Manager is tracking costs and keeping within budget.
- **Item 13: Data Management** -- The Contract Manager coordinated with PIs to complete a draft and final data management plan. The Data Management Plan for MMS Biological Characterization/Numerical Wave Model Analysis within Identified Borrow Sites Offshore the Northeast Coast of Florida Contract No. 1435-01-05-CT-39075 was completed in October 2005. The Contract Manager and TPM are coordinating ongoing data transfer.

2. Significant Problems Encountered

No significant problems have been encountered to date.

3. Summary and Interpretation of Technical Findings

Physical oceanographic and geologic work in the coastal ocean and inner continental shelf environments of Northeast Florida have not been as comprehensive compared to work completed on the west central Florida shelf, southeast Florida, and in the Florida Panhandle region. These other Florida regions have benefited from the presence of a major Federal agency branch office like the U.S. Geologic Survey Marine Geology Office in St. Petersburg, FL, the presence of a major university research laboratory at the Rosenstiel School of Marine and Atmospheric Science at the University of Miami, and interest in Gulf Stream dynamics where the Florida Current dominates the coastal ocean dynamics in Southeast Florida. Despite the minimal Federal and state observational resources in Northeast Florida there have been several data collection and research efforts that have contributed to the geologic and physical database in this region. An early effort by the U.S. Army Corps of Engineers to document sand and gravel resources on the inner Continental Shelf along the Eastern U.S. included a focus on the Northeast Florida inner shelf (Meisberger and Field, 1975). These reconnaissance studies were later enhanced using

more recent sampling technology by the Florida Geologic Survey (FGS) on behalf of the U.S. Minerals Management Service (MMS). Recent phases of this ongoing work are summarized by Phelps et al. (2003, 2004). The Southeast Atlantic Coastal Ocean Observing System (SEACOOS) a regional partnership has recently provided some integration of coastal ocean observing systems over a four-state region of the southeastern coastal U.S. including Florida. Although this program did not add any additional monitoring stations in Northeast Florida, it does provide an opportunity for convenient packaging of existing data collection and renewed interest in the nearshore physical environment. The state of Florida through the Beaches and Shores Program of the Florida Department of Environmental Protection also provides a database of near shore morphologic change and shoreline changes over time that is relevant to the characterization of nearshore sand resources.

Several comprehensive studies have characterized the biological resources within the South Atlantic Bight and the continental shelf, from the 1980's to present (e.g., Coull et al. 1982; Wenner and Read, 1982; Tenore, 1985; BVA, 1999; Lotspeich and Associates, 1997; Foster, 1971; USC *ongoing*). Broad surveys of the fish and invertebrate communities present along the northeast Florida shelf are limited. Most studies have focused on estuarine habitats along the coast to identify and better understand estuarine residents as well as numerous species that spawn in offshore waters and use the estuaries as nursery habitats (Durako et al. 1988; Gilmore 1995; Paperno et al. 2001). Commercial fisheries landings are recorded for each Florida County and are compiled by the Fish and Wildlife Research Institute (FWRI) of the Florida Fish and Wildlife Conservation Commission. Summary data are available at the FWRI web site <http://www.floridamarine.org>. Recreational fisheries landings are monitored by a joint effort of FWRI and the National Marine Fisheries Service (NMFS). Estimates of the total number of fishes of individual species captured by the recreational fishery in different geographic regions during 2004 are captured in the Marine Recreational Fishery Statistics Survey (MRFSS) database at <http://www.st.nmfs.gov/st1/recreational/index.html>.

Information gathered on sea birds, sea turtles, and marine mammals indicates that several federally regulated species may be present in the project area. The fauna relationship(s) in the offshore and coastal areas habitat study sites is species specific with seasonal fluctuations. Studies conducted by (Haney 1986; Erhlich et al. 1988; Meylan and Meylan, 1999; Dodd 1995; Mote Marine Laboratory et al. 2005; Witzell 1999; Lang et al. 2000; Wursig et al. 2000; Best et al. 2001; Reeves et al. 2002; Schmidly 1981) provided data for northeastern Florida. Federal information sources, such as a NOAA NMFS, ACOE, and USFWS and Florida state and local resources were used to confirm when possible the potential presence of species in the project area.

4. Summary of Significant Meetings

On September 12, 2005 a telephone conference was held with MMS COTR Barry Drucker, MMS Biologist Mr. William Waskes, Dr. Gary Zarillo, Kim Zarillo, and Dr. Jeff Reidenauer. The progress on project tasks to date, including Task 2 collection and compilation of existing information and Task 3 field event highlights, and work planned for the next couple of months was discussed.

5. Summary of Scheduled Work for the Next Two Months

Work will proceed on **Item 3 (Task 3)**. Data and samples collected from the first field event will be analyzed. Model grids and input files are being prepared.

6. Summary of MMS Questions and Resolution

None at this time.